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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,902	06/04/2004	Steven J. Mahaffey	PU2222	3901
23454	7590	04/18/2005	EXAMINER	
CALLAWAY GOLF COMPANY 2180 RUTHERFORD ROAD CARLSBAD, CA 92008-7328			PASSANITI, SEBASTIANO	
			ART UNIT	PAPER NUMBER
			3711	

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.		Applicant(s)	
	10/709,902		MAHAFFEY, STEVEN J.	
	Examiner		Art Unit	
	Sebastiano Passaniti		3711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on see detailed Office action.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>06/04/2004</u> . | 6) <input checked="" type="checkbox"/> Other: <u>TD and §3.73 sample</u> .              |

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### DETAILED ACTION

This Office action is responsive to communication received 06/04/2004 – application papers filed.

Claims 1-20 are pending.

Following is an action on the MERITS:

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,719,643 in view of Mahaffey and Kusano. The claimed invention of the '643 Patent differs from the instant invention in that the claimed invention of the '643 Patent fails to detail the make-up of the strike plate comprising at least a first and second layer joined by an explosion bonding, as presently claimed. Further, the claimed invention of the '643 Patent fails to require the specific material make-up for the strike plate and further fails to detail the required thicknesses of the strike plate elements. Mahaffey shows every feature instantly claimed with respect to the striking plate and the materials

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associated with the striking plate with the exception of a reference to explosion bonding and plural inner layers within the striking face insert. Note, Mahaffey utilizes a laminated insert in order to be able to reduce the thickness of the striking plate so that the weight distribution of the club head may be desirably changed to reposition weight around the perimeter of the head (col. 1, lines 38-50). Kusano describes how explosion bonding is one of the best methods that may be used to bond diverse metals, since the metals are forced to bond almost instantaneously without the need for excessive heat (col. Line 61 through col. 7, line 6). Kusano details one example of explosion bonding in col. 10, lines 32-54. In view of the patent to Kusano, it would have been obvious to modify the device in the cited art reference to Mahaffey by joining the plural layers of the insert, the motivation being to provide a high bonding strength between dissimilar materials. With respect to the remaining limitations in the claims and regarding the Mahaffey patent, note for example the outer layers (61,63) along with inner layer (65). Note that two outer layers are present. The outer layers may comprise high strength titanium, while the middle layer may comprise material such as aluminum having a lower strength than the outer layers. See the TABLES in column 3 of Mahaffey. While only one inner layer is explicitly shown in Mahaffey, there is nothing in the Mahaffey reference that precludes the existence of plural inner layers. In fact, Mahaffey only stipulates that the laminated insert comprise at least one inner layer (col. 4, lines 20-28). Clearly, providing plural inner layers simply adds to the effect created by a single layer. In other words, two or more inner layers would not appear to modify the Mahaffey device in any unobvious manner. As Mahaffey has provided for the use of both titanium

and aluminum sheets, in combination, so that the insert exhibits high strength and reduced weight, it would flow logically that adding another inner layer of for example aluminum would alter the weight distribution of the head as well as effect the flexural characteristics of the striking face. These results would have been expected. Note the embodiments shown in Figures 7a-7d, wherein Mahaffey provides openings in at least one of the outer layers. Figures 1 and 3 show an insert secured within one of a number of designs for recesses within the face wall of the club head body. In view of the patents to Mahaffey and Kusano, it would have been obvious to modify the claimed device of the '643 Patent by replacing the striking plate insert with a plate formed of at least a first and second layer joined together by explosion bonding, the motivation being to provide a strong, lightweight striking plate insert that enables the club maker to redistribute the weight of the club head, as the laminated striking plate design enables the face thickness to be reduced, thereby resulting in a reduction in overall club head weight. Regarding the instant claims and the various limitations concerning the thickness of the crown, the thickness of the sole, the club head volume and mass, the coefficient of restitution (COR), the width and height of the head and the moment of inertia through the center of gravity, note that the claimed invention of the '643 Patent encompass these limitations. As for the instant, claimed collective thickness of the striking face insert, note that the teaching reference to Mahaffey obviates the range of the striking face thickness now required. Insofar as the various materials claimed by the instant application, these materials are either taught or rendered obvious by the '643 Patented invention in combination with the teachings to Mahaffey and Kusano. These

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materials, for example, the aluminum for the second layer of the striking plate insert, or the titanium for the first layer of the striking plate insert or the cast steel alloy for the body have not been invented by the applicant, but are instead materials common to the golf club head art.

Enclosed with this Office action is a sample terminal disclaimer which is effective to overcome an obviousness-type double patenting rejection over a prior patent (37 CFR 1.1321(b) and (c)).

Also enclosed is a sample Statement Under 37 CFR 3.73(b) (Form PTO/SB/96) which an assignee may use in order to ensure compliance with the rule. Part A of the Statement is used when there is a single assignment from the inventor(s). Part B of the Statement is used when there is a chain of title. The "Copies of assignments..." box should be checked when the assignment document(s) (set forth in part A or part B) is/are not recorded in the Office, and a copy of the assignment document(s) is/are attached. When the "Copies of assignments..." box is checked, either the part A box or the part B box, as appropriate, must be checked, and the "Reel\_\_\_\_, Frame\_\_\_\_" entries should be left blank. If the part B box is checked, and copies of assignments are not included, the "From:\_\_\_\_ To:\_\_\_\_" blank(s) must be filled in. This statement should be used the first time an assignee seeks to take action in an application under 37 CFR 3.73(b), e.g., when signing a terminal disclaimer or a power of attorney.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-20 are rejected and claim 13 is under 35 U.S.C. 103(a) as being unpatentable over Mahaffey ('309) in view of Kusano and Anderson '437. Mahaffey shows every feature claimed with the exception of a reference to explosion bonding and plural inner layers within the striking face insert. Further, Mahaffey is not specific about



the casting of a main body and the attachment of a strike plate to the main body via a welding operation. Kusano describes how explosion bonding is one of the best methods that may be used to bond diverse metals, since the metals are forced to bond almost instantaneously without the need for excessive heat (col. Line 61 through col. 7, line 6). Kusano details one example of explosion bonding in col. 10, lines 32-54. In view of the patent to Kusano, it would have been obvious to modify the device in the cited art reference to Mahaffey by joining the plural layers of the insert, the motivation being to provide a high bonding strength between dissimilar materials. As the manufacture of a hollow metal wood through a casting process is known in the art to enable the skilled club maker to make a lightweight yet strong body, as provided by Anderson at col. 1, lines 15-50, and as the attachment of a strike plate to the main body via welding is further taught by Anderson at col. 2, lines 36-63, it would have been obvious to modify the Mahaffey device such that metal wood (40) is cast from a metal material and the striking plate insert is welded to the cats body, the motivation being to provide a main body that is lightweight and to further provide a secure means for attaching the striking plate insert to the main body. With respect to the remaining limitations in the claims and regarding the Mahaffey patent, note for example the outer layers (61,63) along with inner layer (65). The outer layers may comprise high strength titanium, while the middle layer may comprise material such as aluminum having a lower strength than the outer layers. See the TABLES in column 3 of Mahaffey. While only one inner layer is explicitly shown in Mahaffey, there is nothing in the Mahaffey reference that precludes the existence of plural inner layers. In fact, Mahaffey only

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stipulates that the laminated insert comprise at least one inner layer (col. 4, lines 20-28).

Clearly, providing plural inner layers simply adds to the effect created by a single layer.

In other words, two or more inner layers would not appear to modify the Mahaffey device in any unobvious manner. As Mahaffey has provided for the use of both titanium and aluminum sheets, in combination, so that the insert exhibits high strength and reduced weight, it would flow logically that adding another inner layer of for example aluminum would alter the weight distribution of the head as well as effect the flexural characteristics of the striking face. These results would have been expected. Note the embodiments shown in Figures 7a-7d, wherein Mahaffey provides openings in at least one of the outer layers. Figures 1 and 3 show an insert secured within one of a number of designs for recesses within the face wall of the club head body. It is clear that the steps of the method would flow logically from the combined teachings of Mahaffey, Kusano and Anderson. Specifically, Mahaffey teaches arranging and securing the layers of the laminated insert. Kusano obviates bonding the layers through explosion bonding. Anderson provides a clear teaching of employing a cast main body and a welding operation to secure the striking plate insert to the main body.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Vincent and Mahaffey ('094) show inserts, of interest.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sebastiano Passaniti whose telephone number is 571-272-4413. The examiner can normally be reached on Mon-Fri (6:30-3:00).



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Vidovich can be reached on 571-272-4415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Sebastiano Passaniti  
Primary Examiner  
Art Unit 3711

S.Passaniti/sp  
April 13, 2005